

U.S. PTO Customer No. 25280

Case# 5716

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Restriction Requirement:

Restriction to one of the following inventions is required under 35 USC 121:

- I. Claims 1-33, drawn to a woven substrate, classified in class 442, subclass 181;
- II. Claims 34-40, drawn to a method of making a fiber-containing substrate and face-finishing the substrate, classified in class 26, subclass 29R;
- III. Claims 41-68, drawn to a method of making a fiber-containing substrate and applying a chemical mixture, classified in class 8, subclass various.
- IV. Claims 69-70, drawn to a method of making a composite textile substrate by joining various layers together, classified in class 156, subclass 60.

Applicants hereby confirm election to Group II, claims 34-40, as made during a telephone conversation with Examiner Ula Ruddock on December 19, 2005. The election was made without traverse.

35 USC Section 112 Rejection:

Claims 34-40 were rejected under 35 USC Section 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 34 is indefinite in reciting the claimed method. The claim recited a method comprising steps of (a) providing a fiber containing substrate having a first surface and a second surface, and (b) face finishing the substrate. The relationship between the manipulative method steps (lines 11-14) and the substrate recited in lines 2-9 is unclear. It is unclear whether the substrate recited in part (a) of the method is the same substrate recited in lines 2-9. It is unclear whether the method steps of parts (a) and (b) result in a substrate having the properties recited in claim 2-9; that is, it is unclear if or in what manner the limitations of lines 2-9 limited the claimed method. It is unclear whether the limitations of lines 2-9 are forming a part of the claimed method.

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Applicants have amended claim 34 to clarify the relationship between the substrate and the treating method. Thus, Applicants respectfully submit that this rejection has been overcome.

35 USC Section 102 Rejection:

Claims 34-38 were rejected under 35 USC 102(b) as being anticipated by Otto et al. (US Patent No. 4,316,928).

The Examiner submits that Otto discloses a method of making a fiber containing substrate, including steps of providing a fiber containing substrate (10) having a first surface and a second surface (see Fig. 1), and face-finishing at least the first surface of the substrate. The face-finishing is a mechanical treatment of the substrate accomplished by exposing at least the first surface of the substrate to one or more abrasive surfaces (11, 11a). The face-finishing forms integral microscopic surface structures, as in claim 1; see col. 3, lines 19-59, col. 6, lines 53-54 (disclosing that the finish is not apparent to the naked eye), and Figs. 9 and 17, showing 350x magnification of the surface.

Regarding claim 38, the Examiner submits that Otto discloses that the abrasive surface is a roll coated with sandpaper. Regarding the recitation in claim 34 of the structure of the substrate (lines 2-9), the Examiner submits that such limitations are drawn to the product and do not further define the claimed method steps in any way.

The Examiner further contends that the substrate of Otto does have integral microscopic surface structures including projections (see protrusions disclosed in col. 3, lines 22-25) and a plurality of unbroken fibers (see figures of Otto showing treated fabric of Otto), and the method of abrading disclosed by Otto would clearly result in the fabric having a Roughness Factor as claimed.

Applicants have amended claim 34 to include the limitation that the face-finishing is accomplished by exposure of the substrate to abrasive surfaces coated with diamond grit having an average grit size of between 600 and 1200. Thus, Applicants respectfully submit that this rejection has been overcome.

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35 USC Section 103 Rejection:

Claims 39 and 40 were rejected under 35 USC 103(a) as being unpatentable over Otto (US Patent No. 4,316,928) in view of Dischler (US Patent No. 5,943,745).

The Examiner submits that Otto discloses a method as claimed, including face-finishing a first surface of a substrate by exposing the surface to rollers (11, 11a) coated with an abrasive substance. Otto discloses that the roller is covered with "a suitable abrasive material such as sandpaper, the grit size of which may vary depending upon the desired effect.." (col. 4, lines 52-54). Otto does not disclose the use of diamond grit having an average grit size of between about 600 and 1200, as in claim 39. Diamond grit of this size is conventionally used for abrading textiles, however, such as taught by Dischler ('745). Dischler discloses a method of treating a textile substrate using an abrasive roller having a surface coated with diamond grit (col. 6, lines 30-31). The grit size is disclosed as between 50 and 800 which overlaps with that of claim 39 (col. 6, lines 30-32 and col. 7, lines 37-38).

The Examiner further asserts that Applicant fails to disclose any criticality as to the type of abrasive particles used; that is, Applicant's specification discloses that any of various types of abrasives may be used in the present invention. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use diamond grit rather than sandpaper as the abrasive coating on the abrasive roller of Otto, since diamond grit is conventionally used to abrade textiles, as disclosed by Dischler, and in the absence of the disclosure of any criticality as to the type of abrasive used, it is within the general skill of a worker in the art to select a known material as the abrasive in the treatment method on the basis of its suitability for the intended use as a matter of obvious design choice. Furthermore, it would have been obvious to use a diamond grit in the method of Otto having a size within the claimed range, since diamond grit having a size similar to the claimed range is conventional in the art, as taught by Dischler, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding Claim 40, the Examiner states that one or more abrasive surfaces disclosed by Otto are cylindrical rolls (see 11, 11a).

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To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art (MPEP § 2143.03). Additionally, case law states that "[A] prior art reference may be considered to teach away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.'" Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH, 1998 WL 117765 at *8 (Fed. Cir. 1998); In re Gurley, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994).

Applicants respectfully submit that the combination of Otto and Dischler fails to establish a *prima facie* showing of obviousness since the combination of references (a) fails to teach or suggest all the claim limitations of Applicants' invention and (b) teaches away from Applicants' claimed invention.

Otto teaches a process for mechanically face-finishing a textile fabric by avoiding substantial contact between the fabric and the abrasive means (Abstract). The abrasive means may be abrasive rolls covered with sandpaper having a grit size of between 16 and 600 (col. 4, lines 52-56; col. 8, lines 18-22).

Dischler teaches a process for mechanically face-finishing a textile fabric by angularly abrading the fabric in order to provide a sueded fabric (col. 1, lines 7-13). The sueded fabric is achieved by cutting warp and/or fill fibers (col. 4, lines 43-47).

Applicants note that Otto discloses that the sandpaper used to treat the fabric has a grit size of between 16 and 600, which is outside the range claimed by Applicants. Furthermore, Applicants respectfully submit that Otto teaches away from using sandpaper grit in a size that is greater than 600. Otto discloses, for example, at column 8 (lines 47-68) that finer grit sandpaper provides a significant effect over the coarser grit material because the cutting edges of the grit are impacted upon the fibers of the fabric with considerable force causing most if not all of the sanding grains to cut into or abrade the surface of the textile material. Otto also teaches that the use of finer grit sandpaper results in a fabric having a finish that is "more uniform, fine and dense" (col. 8, lines 54-62). Thus, Applicants respectfully submit that Otto fails to teach or suggest all the claim limitations of Applicants' claimed invention, and furthermore, teaches away from Applicants' claimed invention in disclosing the need for such fine sandpaper grit for fabric treatment.

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Applicants respectfully submit that Dischler fails to provide for the deficiencies of Otto. While Dischler teaches the use of diamond grit for abrading surfaces, Dischler teaches "a method and apparatus for providing improved and efficient sueding and sanding of fill and warp yarns through loosening, cutting, and abrading a web of textile fabric" (col. 2, lines 61-64). Dischler further states that an object of the invention is "to provide a method of cutting the fibers of filament warp yarns" (col. 3, lines 34-35). See also column 4 (lines 21-29) which discloses various methods for preferentially cutting warp or fill yarns or both.

Thus, Applicants respectfully submit that Dischler also teaches away from Applicants' claimed invention by teaching a method of breaking fibers in order to improve or change the feel of a textile substrate. In contrast, Applicants teach and specifically claim a method of face-finishing a fabric "having a plurality of substantially unbroken fibers" (see specification page 2, lines 14-21; Example 10 illustrated in Figures 5 and 9A; claim 34).

Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. Reconsideration and withdrawal of this rejection is earnestly requested.

Conclusion:

For the reasons set forth above, it is respectfully submitted that claims 34 and 40 are in condition for allowance. Should any issues remain after consideration of these Amendments and Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be promptly and satisfactorily resolved.

To any extent required for acceptance of this paper, an extension of time is hereby requested. In the event that there are additional fees associated with the submission of these papers, authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

November 27, 2006

Respectfully requested,



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